

Amendments to the Specification:

Please replace paragraph [0035] with the following paragraph:

[0035] The sleeve extension 7 of one embodiment of the invention is shown in FIGS. 5, 6 and 7. As can be seen in FIG. 6, the ejector sleeve extension 7 has an extension shoulder 29 and a first bore 30 dimensioned to receive the shaft 3 of the core pin 1. The extension shoulder 29 is adapted to be received in an extension pocket 15 machined into the ejector plate 45 and core mold half 40. The first bore 30 is contiguous with the T-slot 4 which is dimensioned to receive the mounting ring 31 of the ejector sleeve extension 7. A second bore 32 is formed in the upper portion of the ejector sleeve extension 7 and is dimensioned to receive the base portion 26 of the ejector sleeve 5. FIG. 7 shows the ejector sleeve extension 7 in cross section and illustrates that the T-slot 4 extends through one exterior wall of the sleeve so that ejector sleeve 5 can be slid into place in the T-slot 4 and second bore 32 within the ejector sleeve extension 7. FIGS. 1 and 2 show the extension pocket 15 formed in the core mold half 40 and ejector plate 45 for receiving the sleeve extension 7, ejector sleeve 5, as well as the core pin 1. By use of the sleeve extension in embodiments of the invention illustrated in FIGS. 1, 2, 3, 6, 7 and 9, it has been found that a very thin ejector sleeve having side wall thickness on the order of 0.030 of an inch may be used without excessive wear or damage to the sleeve, core pin or mold. Using such a sleeve extension, applicant has successfully tested and used sleeves and sleeve extension having a total height (dimension 34 in FIG. 2) in excess of 6 inches.

Please replace paragraph [0036] with the following paragraph:

[0036] A single aperture 12 is machined by the end user having a first, second and third diameter to accommodate the core pin, sleeve, and mounting plug within the mold. The three aperture diameters are machined to closely match the two outside diameters of the mounting plug 9 and the outside diameter of the sleeve 5. The aperture 12 typically will be formed in three basic steps by machining three bores of differing diameter, a sleeve bore 14 dimensioned to receive the sleeve 5, a plug bore 13 dimensioned to receive a standard pin head 2 and plug body 27, and a plug shoulder bore 20 dimensioned to receive a plug shoulder 17. The core pin 1 extends through the core pin bore ~~6~~ 14 in the mold section which is continuous with the single aperture 12, and the mounting plug 9 is threaded into the aperture

12. The plug 9 has a plug shoulder 17 formed between plug head 21 and threaded exterior cylindrical surface 16. The depth of the plug bore 13 is machined to slightly exceed the combined height of the plug 9 and pin head 2 as shown in dimension 28 on FIG. 4. When the mounting plug 9 is threaded flush into the plug bore 13 the plug head 21 contacts the stop surface 18 of the plug shoulder bore 20. The space left around the pin head 2 includes the head clearance 10, which will typically measure from about one to three thousandths of an inch. This head clearance 10 is sufficient to allow the core pin 1 to move forward and back, that is, float in the mount which can assist in preventing damage to the pin 1 and or sleeve 5 during installation and operation.

Please replace paragraph [00039] with the following paragraph:

[00039] In one embodiment of the invention, a novel mounting system is provided for securing core pins, coring members, and other mold components. This system is best understood with reference to the two types of prior mounting systems typically used which are shown in FIGS. 12 and 13. The first type seen in FIG. 13 has a threaded aperture 65 and a retaining bolt 63 which is threaded through the aperture to mount the core pin 67 tightly against the surface of the press piece 43c. The aperture 65 includes a stop surface 64 of lesser diameter which corresponds closely in diameter to the core pin. The shoulder 68 of the head 69 of the core pin 67 engages the stop surface 64 when the bolt 63 is tightened into the threaded aperture 65. This mechanism typically holds the pin 1 rigidly, which increases the likelihood that the long narrow pin will fracture or break during installation or use. The bolt has a recess 66 for receipt of a hex-wrench or similar mechanism for tightening the bolt 63 in the threaded aperture 65.

Please replace paragraph [0040] with the following paragraph:

[0040] The second type of mount seen typically used is shown in FIG. 12. This mounting system uses a mounting plate 55 held to the press piece 43b by a mounting screw 53 in a threaded aperture 60 that must be machined into the press piece 43b. The mounting plate 55 is placed into an aperture 59 machined into the press piece 43b. The aperture 59 for the mounting plate is typically large in comparison with the core pin 1 and core pin head 2 and is rectangular in shape as shown in FIG. 12. A head pin aperture 52 is formed in the press piece 43b for receiving the head 59a of the pin 57. The shoulder portion 58 of the pin 57 is not pressed flush against the stop surface 54 so that a head space 61 is created which allows a floating mount. Forming these

multiple apertures in the press piece requires multiple machining steps and can require the use of multiple pieces of machining or drilling equipment. Moreover, the relatively large, rectangular mounting plate 55 takes up more space on the press piece than is desirable since such space is customarily at a premium. Again, the large number of steps increase the cost of manufacturing the mold.

Please replace paragraph [0041] with the following paragraph:

[0041] The novel mounting system of this embodiment of the invention is shown in FIGS. 1-4. The mounting system provides head clearance 10 for a floating mount but can be installed in a greatly simplified procedure which requires a single aperture 12 having surfaces with a first, second and third diameter. The three diameters are machined to closely match the two diameters of the mounting plug 9 and the outside diameter of the sleeve 5. The aperture 12 is machined to have a plug bore 13 which has a threaded cylindrical surface 11 for receiving and engaging the threaded exterior surface 16 of the mounting plug 9. Mounting plug 9 has a plug body 27 which has a diameter similar to the diameter of the pin head 2. These two diameters correspond to the diameters to be drilled or machined into the mold section to form the plug bore 13 27 which received the plug to retain the pin head 2 of the core pin. The mounting plug has a plug shoulder 17 which has a larger diameter than the plug body 27. A plug shoulder bore 20 is machined into the press piece 43a which is dimensioned to receive the plug shoulder 17 in a flush mount relationship. It is contemplated that the novel core element mounting system shown in FIGS. 1-4 may be used to mount core elements other than core pins, such as, core blades as well as other mold components, e.g., ejector blades or ejector pins.

Please replace paragraph [0042] with the following paragraph:

[0042] In practice, core pins typically come in standard lengths and are machined and cut by the end user to correspond with the design for the mold itself. The pins have a pin head 2 which rests within and is engaged by the aperture 12 in the press piece 43a. As depicted in FIG. 3, in this example, the end of the core pin 1 is machined by the end user to form a shaft shoulder 22 which correspond in part with the width of the walls of the raised aperture 48 to be formed in the molded article 46. In the embodiment depicted in FIG. 14, the width (dimension 49) of the walls 34 of the raised aperture 48 is approximately equal to the sum of the cross sectional, diameter (dimension 71) of the shoulder 22 and the width (dimension 35) of the hollow sleeve 37 of the

ejector sleeve 5, as seen in FIG. 3. However, it is recognized that end users can also opt to select a thinner core pin, machine a smaller diameter cavity in the mold halves 39 and 40, and set the width (dimension 49) of the walls 34 of the raised aperture 48 and lip 36 as the width (dimension 35) of the ejector sleeve. Also, the end users often taper these parts, in particular to provide the pin with taper which is commonly referred to as draft, and machine a correspondingly shaped cavity into the mold sections, in place of the cylindrical cavities, and pins depicted herein.

Please replace paragraph [0045] with the following paragraph:

[0045] As seen in FIG. 1, the molten plastic or thermosetting material which forms the molded article 46 has surrounded the pin tip 3 to fill in the cavity between the core pin tip 3 and the mold half 40. This molten plastic or thermosetting material abuts the exterior lip 56 of the ejector sleeve end 24. When the shaft end 3a of the core pin 1 is machined to a smaller diameter as well, the material also abuts the shoulder 22 of the core pin 1. The pin head 2 rests within the head cavity 8 formed by the press piece 43a and the mounting plug 9. The head clearance 10, (FIG. 4), allows the ejector sleeve 5 to travel through the mold half and 40 without deforming (not shown). The ejector plate 45 is adjacent to the press piece 43a, and the ejector sleeve S and ejector sleeve extension 7, which are correspondingly mounted on the ejector plate 45, follow core pin 1 along its length up to the machined shoulder 22 so that the lip 56 of the sleeve end 24, is adjacent to the core pin shoulder 22. The walls of the ejector sleeve 24 travel through the core mold half 40 and fill the cavity left between the core pin and the cavity in the mold half 40, to prevent molten material from flashing, i.e., escaping around the edges of the ejector sleeve 5. In the exemplar ejection cycle depicted in FIG. 2, the ejector plate 45 has traveled upwardly to its full extent, the ejector sleeve is also extended upwardly, and the ejector sleeve 5 now extends past the part line 44 into the mold cavity 50. As can be best seen in FIG. 2, the aperture 51 formed in the now cured molded article 46 has walls 47 (after allowing for shrinkage) which have a width equal to the width of the ejector sleeve wall 24 and the core pin shoulder 22 combined.

Please replace paragraph [0050] with the following paragraph:

[0050] As shown in FIG. 15 in a still further embodiment of the invention, the mold mounting plug 82 is used to provide a floating mount of an ejector pin 80 in the ejector plate 81. The method for installing the ejector pin in the ejector plate is substantially the same as explained above for mounting the core pin in the single aperture with first, second and third diameters.

Likewise, the ejector plate and other mold plates are provided with a single continuous aperture with three diameters to mount and accommodate the ejector pin. The single aperture 86 is machined to form an ejector pin bore 92 having a first smaller diameter. The second diameter is machined to closely match the diameter of the mounting plug body 83 and the outside diameter of the head 85 of the ejector pin 80. The single aperture 86 is machined to have a plug bore 84 which has a threaded surface 87 for receiving and engaging the exterior 89 of the mount plug 83. The single aperture 846 is machined to have a third, wider diameter bore 94 for accommodating the shoulders 96 of the mold plug 82. The ability to mount the core pin in the exterior surface 88 of the ejector plate 81 greatly simplifies removal and replacement of ejector pins that become either worn or damaged during use in the injection mold.